## Patent Claims

1. A device (15) for detecting a momentary distance (A) between a motor vehicle (7) and an obstacle (8, 8'), comprising distance sensors (1-6) and a control unit (10), wherein the control unit (10) is designed to calculate a driving path (11), to be traveled through in future by the motor vehicle (7), using static and dynamic vehicle data, and the control unit (10) is designed to differentiate between relevant obstacles (8') which are located within the driving path (11), and irrelevant obstacles (8) which are located outside the driving path (11), characterized in that
the distance sensors (1-6) each have a variable detection area (9), in that the control unit (10) is designed to adapt the range (R) of the detection areas (9) of the distance sensors (1-6) to lateral boundaries (12, 13) of the driving path (11) and in that those distance sensors (1-6) whose detection area (9) is located completely in the driving path (11) are actuated by the control unit (10) in such a way that they operate with maximum range ($R_{max}$).

2. The device as claimed in claim 1, characterized in that the control unit (10) is designed to gate out irrelevant obstacles (8) which are detected.

3. The device as claimed in one of claims 1 to 2, characterized in that the control unit (10) is connected to a brake device of the motor vehicle (7) and is designed to automatically brake the motor vehicle (7).

4. The device as claimed in one of claims 1 to 3, characterized in that the distance sensors (1-6) are embodied as ultrasonic and/or as radar and/or as optical sensors.

5. The device as claimed in one of claims 1 to 4, characterized in that the distance sensors (1-6) are arranged on the front of a vehicle and/or on the rear of a vehicle.

6. The device as claimed in one of claims 1 to 5, characterized in that at least one element from the following group is used as dynamic vehicle data: vehicle velocity, direction of travel, vehicle acceleration, steering angle, change in steering angle, sensor function.

7. The device as claimed in one of claims 1 to 6, characterized in that at least one vehicle contour is used as static vehicle data.

8. A method for detecting a momentary distance (A) between a motor vehicle (7) and an obstacle (8, 8'), having distance sensors (1-6) and having a control unit (10), wherein the control unit (10) calculates a driving path (11), to be traveled through in future by the motor vehicle (7), using static and dynamic vehicle data and differentiates relevant obstacles (8') within the driving path (11) from irrelevant obstacles (8) which are located outside the driving path (11), characterized in that the control unit (10) controls the range (R) of the detection areas (9) of the individual distance sensors (1 to 6) in such a way that distance sensors (3 and 4) whose distance areas (9) are located completely on the driving path (11) operate with maximum range ($R_{max}$) while other distance sensors

(1, 2 and 5, 6) are actuated outside their maximum range ($R_{max}$) so that their detection area (9') is located essentially within the driving path (11).

9. The method as claimed in claim 8, characterized in that the distance sensors (1-6) each have a variable detection area (9), in that the control unit (10) adapts the range (R) of the detection areas (9) of the distance sensors (1-6) to lateral boundaries (12, 13) of the driving path (11).

10. The method as claimed in claim 8 or 9, characterized in that the control unit (10) gates out irrelevant obstacles (8) which have been detected.

11. The method as claimed in one of claims 8 to 10, characterized in that the control unit (10) is connected to a brake device of the motor vehicle (7), and the motor vehicle (7) is braked automatically in response to a control signal of the control unit (10).

12. The method as claimed in one of claims 8 to 11, characterized in that the distance sensors (1-6) operate with a measuring principle which is based on electromagnetic waves or sound waves.

13. The method as claimed in one of claims 8 to 12, characterized in that at least one element from the following group is used to calculate the driving path (11): vehicle velocity, direction of travel, vehicle acceleration, steering angle, change in steering angle, sensor function, vehicle contour.

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## Patent Claims

1. A device (15) for detecting a momentary distance (A) between a motor vehicle (7) and an obstacle (8, 8'), comprising distance sensors (1-6) and a control unit (10), characterized

- in that the control unit (10) is designed to calculate a driving path (11), to be traveled through in future by the motor vehicle (7), using static and dynamic vehicle data,
- in that the control unit (10) is designed to differentiate between relevant obstacles (8') which are located within the driving path (11), and irrelevant obstacles (8) which are located outside the driving path (11).

2. The device as claimed in claim 1, characterized

- in that the distance sensors (1-6) each have a variable detection area (9),
- in that the control unit (10) is designed to adapt the range (R) of the detection areas (9) of the distance sensors (1-6) to lateral boundaries (12, 13) of the driving path (11).

3. The device as claimed in claim 1 or 2, characterized in that the control unit (10) is designed to gate out irrelevant obstacles (8) which are detected.

4. The device as claimed in one of claims 1 to 3, characterized in that those distance sensors (1-6) whose detection area (9) is located completely in the driving path (11) are actuated by the control unit (10) in such a way that they operate with maximum range ($R_{max}$).

5. The device as claimed in one of claims 1 to 4, characterized in that the control unit (10) is connected to a brake device of the motor vehicle (7) and is designed to automatically brake the motor vehicle (7).

6. The device as claimed in one of claims 1 to 5, characterized in that the distance sensors (1-6) are embodied as ultrasonic and/or as radar and/or as optical sensors.

7. The device as claimed in one of claims 1 to 6, characterized in that the distance sensors (1-6) are arranged on the front of a vehicle and/or on the rear of a vehicle.

8. The device as claimed in one of claims 1 to 7, characterized in that at least one element from the following group is used as dynamic vehicle data: vehicle velocity, direction of travel, vehicle acceleration, steering angle, change in steering angle, sensor function.

9. The device as claimed in one of claims 1 to 8, characterized in that at least one vehicle contour is used as static vehicle data.

10. A method for detecting a momentary distance (A) between a motor vehicle (7) and an obstacle (8, 8'), having distance sensors (1-6) and having a control unit (10), characterized

- in that the control unit (10) calculates a driving path (11), to be traveled through in future by the motor vehicle (7), using static and dynamic vehicle data,
- in that the control unit (10) differentiates relevant obstacles (8') within the driving path (11) from irrelevant obstacles (8) which are located outside the driving path (11).

11. The method as claimed in claim 10, characterized
- in that the distance sensors (1-6) each have a variable detection area (9),
- in that the control unit (10) adapts the range (R) of the detection areas (9) of the distance sensors (1-6) to lateral boundaries (12, 13) of the driving path (11).

12. The method as claimed in claim 10 or 11, characterized in that the control unit (10) gates out irrelevant obstacles (8) which have been detected.

13. The method as claimed in one of claims 10 to 12, characterized in that those distance sensors (1-6) whose detection area (9) is located completely in the driving path (11) are actuated by the control unit (10) in such a way that they operate with maximum range ($R_{max}$).

14. The method as claimed in one of claims 10 to 13, characterized in that the control unit (10) is connected to a brake device of the motor vehicle (7), and the motor vehicle (7) is braked automatically in response to a control signal of the control unit (10).

15. The method as claimed in one of claims 10 to 14, characterized in that the distance sensors (1-6) operate with a measuring principle which is based on electromagnetic waves or sound waves.

16. The method as claimed in one of claims 10 to 15, characterized in that at least one element from the following group is used to calculate the driving path (11): vehicle velocity, direction of travel, vehicle acceleration, steering angle, change in steering angle, sensor function, vehicle contour.